

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**(Use as many sheets as necessary)**

**Complete if Known**

Application Number	TBA
Filing Date	July 14, 2003
First Named Inventor	Steven R. HETZLER
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	ARC9-2003-0016-US1

Sheet	1	of	4
-------	---	----	---

## U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code* (if known)			
JG	1	US- 5,134,619	07-28-1992	Henson et al.	
	2	US- 5,148,432	09-15-1992	Gordon et al.	
	3	US- 5,257,391	10-26-1993	DuLac et al.	
	4	US- 5,301,297	04-05-1994	Menon et al.	
	5	US- 5,398,253	03-14-1995	Gordon	
	6	US- 5,506,977	04-09-1996	Jones	
	7	US- 5,579,475	11-26-1996	Blaum et al.	
	8	US- 5,835,938	11-10-1998	Yamamoto et al.	
	9	US- 5,848,229	12-08-1998	Morita	
	10	US- 5,937,428	08-10-1999	Jantz	
	11	US- 6,070,249	05-30-2000	Lee	
	12	US- 6,138,125	10-24-2000	DeMoss	
	13	US- 6,154,853	11-28-2000	Kedem	
	14	US- 6,161,165	12-12-2000	Solomon et al.	
	15	US- 6,269,453 B1	07-31-2001	Krantz	
	16	US- 6,275,898 B1	08-14-2001	DeKoning	
	17	US- 6,279,138 B1	08-21-2001	Jadav et al.	
	18	US- 6,353,895 B1	03-05-2002	Stephenson	
	19	US- 6,530,004 B1	03-04-2003	King et al.	

## FOREIGN PATENT DOCUMENTS

[illegible]

Examiner Signature		Date Considered	12/25/06
-----------------------	---	--------------------	----------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 801.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

**If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.**

Approved for use through 04/30/2003. OMB 0851-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

**Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.**

Substitute for form 1449/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**(Use as many sheets as necessary)**

**Complete if Known**

Application Number	TBA
Filing Date	July 14, 2003
First Named Inventor	Steven R. HETZLER
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	ARC9-2003-0016-US1


Sheet	2	of	4
-------	---	----	---

## U. S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

[illegible]

Examiner Signature		Date Considered	12/25/06
-----------------------	---	--------------------	----------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 608. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.<sup>1</sup> Applicant's unique citation designation number (optional).<sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).<sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible.<sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

**If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.**

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Applicant Number	TBA
Filing Date	July 14, 2003
First Named Inventor	Steven R. HETZLER
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	ARC9-2003-0016-US1

Sheet 3 of 4

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	21	G.A. ALVAREZ et al., Tolerating Multiple Failures in RAID Architectures with Optimal Storage and Uniform Declustering, Computer Architecture News (USA), V. 25, #2, pp. 62-72, May 1972.	
	22	V. BOHOSSIAN et al., Computing in the RAIN: A Reliable Array of Independent Nodes, pp. 1-20, September 24, 1999.	
	23	P.M. CHEN et al., RAID: High-Performance, Reliable Secondary Storage, ACM Computing Surveys, Vol. 26, No. 2, pp. 146-185, June 1994.	
	24	M. HOLLAND et al., Parity Declustering for Continuous Operation in Redundant Disk Arrays, ACM 0-89791-535-6/92/0010/0023, pp. 23-35, October 1992.	
	25	N.K. OUCHI, Two-Level DASD Failure Recovery Method, IBM Technical Disclosure Bulletin, Vol. 36, No. 03, pp. 187-190, March 1993.	
	26	D.A. Patterson et al., A Case for Redundant Arrays of Inexpensive Disks (RAID), ACM 0-89791-268-3/88/0006/0109 1998.	
	27	J.S. PLANK, A Tutorial on Reed-Solomon Coding for Fault-Tolerance in RAID-like Systems, pp. 1-19, February 19, 1999.	
	28	E.J. SCHWABE et al., Evaluating Approximately Balanced Parity-Declustered Data Layouts for Disk Arrays, ACM 0-89791-813-4/96/05, pp. 41-54, 1996.	
	29	E.J. SCHWABE et al., Flexible Usage of Parity Storage Space in Disk Arrays, ACM 0-89791-809-6/96/06, pp. 99-108, 1996.	
	30	L. Xu et al., X-Code: MDS Array Codes with Optimal Encoding, IEEE Trans. On Information Theory, Vol. 45, No. 1, pp. 272-276, January 1999.	

Examiner  
SignatureDate  
Considered

12/25/00

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete If Known**

Applicati n Number	TBA
Filing Date	July 14, 2003
First Named Inventor	Steven R. HETZLER
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	ARC9-2003-0016-US1

Sheet

4

of

4

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JB	31	M. Blaum et al., "MDS Array Codes with Independent Parity Symbols," IEEE Trans. on Information Theory, Vol.IT-42, pp. 529 542, March 1996.	
JB	32	M. Blaum et al., "The EVENODD Code and its Generalization," High Performance Mass Storage and Parallel I/O: Technologies and Applications, edited by H. Jin et al., IEEE & Wiley Press, New York, Chapter 14, pp. 187 208, 2001.	
JB	33	M. Blaum et al., "EVENODD: An Efficient Scheme For Tolerating Double Disk Failures In A RAID Architecture," IEEE Trans. on Computers, Vol. 44, No. 2, pp. 192-202, Feb. 1995.	

Examiner  
SignatureDate  
Considered

12/25/06

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.